

Attorney Docket No. P46-US

IN THE CLAIMS

Please amend claims 1 and 61 as follows; and

Please cancel claims 17-35, 52-54, and 68-73 without prejudice.

1. (currently amended) A color wheel comprising:
a set of segments, one of which is constructed such that,
when intersected by a first circle having a first radius and centered as the same center of the color wheel, a first arc of the first circle within said segment occupies a first percentage of the circumference of the first circle;
when intersected by a second circle having a second radius and centered as the same center of the color wheel, a second arc of the second circle within said segment occupies a second percentage of the circumference of the second circle; and
wherein the first and second percentage are different;
wherein the percentage increases in a stepwise manner from the radially outer point to a radially inward point.
2. (original) The color wheel of claim 1, wherein the color wheel further comprises colored segments which comprise one red, one green and one blue segment.
3. (original) The color wheel of claim 2, wherein the at least one segment is a white segment.
4. (original) The color wheel of claim 2, wherein the colored segments further comprise a yellow, cyan and/or magenta segment.
5. (original) The color wheel of claim 1, wherein the at least one segment is a clear glass or polymer.
6. (original) The color wheel of claim 1, wherein the at least one segment comprises a transparent or translucent material or no material within that segment of the wheel.
7. (original) The color wheel of claim 1, wherein the at least one segment does not extend completely across the width of the color wheel in the radial direction of the wheel.

Attorney Docket No. P46-US

8. (original) The color wheel of claim 1, wherein the at least one segment provides higher brightness for each frame when the wheel is rotated in a projection system.
9. (original) The color wheel of claim 1, wherein the at least one segment provides increased color saturation for each frame when the wheel is rotated in a projection system.
10. (original) The color wheel of claim 1, further comprising at least three different filter segments in addition to the at least one segment.
11. (original) The color wheel of claim 10, wherein the at least three different filter segments occupy, for a given radius, a percentage of the circumference of the wheel at that radius, which percentage remains the same from a radially inward point to a radially outer point on the wheel.
12. (original) The color wheel of claim 10, wherein light passing through the at least three different filter segments is centered around a different wavelength for each segment.
13. (original) The color wheel of claim 10, wherein the at least one segment is at least three segments having a different luminosity and color saturation than an adjacent one of said at least three different filter segments.
14. (original) The color wheel of claim 13, wherein the at least three segments have a higher luminosity than the at least three different filter segments.
15. (original) The color wheel of claim 14, wherein the at least three segments are interspersed between the at least three different filter segments.
16. (original) The color wheel of claim 15, wherein the at least three segments are white or yellow segments.
- 17-35 (cancelled)
36. (original) A projection system comprising:

Attorney Docket No. P46-US

a light source;
the color wheel of claim 1;
a spatial light modulator; and
projection optics.

37. (original) The projection system of claim 36, wherein the color wheel further comprises colored segments which comprise one red, one green and one blue segment.
38. (original) The projection system of claim 37, wherein the at least one segment is a white segment.
39. (original) The projection system of claim 37, wherein the colored segments further comprise a yellow, cyan and/or magenta segment.
40. (original) The projection system of claim 36, wherein the at least one segment is a clear glass or polymer.
41. (original) The projection system of claim 36, wherein the at least one segment comprises a transparent or translucent material or no material within that segment of the wheel.
42. (original) The projection system of claim 36, wherein the at least one segment does not extend completely across the width of the color wheel in the radial direction of the wheel.
43. (original) The projection system of claim 36, wherein the at least one segment provides higher brightness for each frame when the wheel is rotated in a projection system.
44. (original) The projection system of claim 36, wherein the at least one segment provides increased color saturation for each frame when the wheel is rotated in a projection system.
45. (original) The projection system of claim 36, further comprising at least three different filter segments in addition to the at least one segment.
46. (original) The projection system of claim 45, wherein the at least three different filter segments

Attorney Docket No. P46-US

occupy, for a given radius, a percentage of the circumference of the wheel at that radius, which percentage remains the same from a radially inward point to a radially outer point on the wheel.

47. (original) The projection system of claim 45, wherein light passing through the at least three different filter segments is centered around a different wavelength for each segment.

48. (original) The projection system of claim 45, wherein the at least one segment is at least three segments having a different luminosity and color saturation than an adjacent one of said at least three different filter segments.

49. (original) The projection system of claim 48, wherein the at least three segments have a higher luminosity than the at last three different filter segments.

50. (original) The projection system of claim 49, wherein the at least three segments are interspersed between the at least three different filter segments.

51. (original) The projection system of claim 50, wherein the at least three segments are white or yellow segments.

52-54 (cancelled)

55. (original) The projection system of claim 36, wherein the spatial light modulator is a micromirror array.

56. (original) The projection system of claim 36, wherein the light source is a white light source.

57. (original) The projection system of claim 56, wherein the white light source is a halogen lamp, a xenon arc lamp, a UHP arc lamp or a white light laser.

58. (original) The projection system of claim 36, wherein the projection system further comprises a target.

59. (original) The projection system of claim 58, wherein the projection system is a front or rear

Attorney Docket No. P46-US

screen television or computer monitor.

60. (original) The projection system of claim 36, further comprising a housing and a knob or button for mechanically moving the color wheel so as to increase or decrease brightness.

61. (currently amended) A projector, comprising:

a light source producing a light beam;

a color wheel comprising a set of segments, depending upon the relative positions of the color wheel to the light beam, the percentage of time that a particular one of the segments remains in the light beam when the wheel is spinning, changes relative to the other segments;

a spatial light modulator for modulating the light beam passing through the color wheel; and

a display target on which the modulated light beam is projected so as to form a desired image;

and wherein one of the boundaries of the adjacent segments extends stepwise.

62. (previously presented) The projector of claim 61, wherein the segments comprise a set of primary colors.

63. (previously presented) The projector of claim 62, wherein the primary colors are red, green, and blue.

64. (previously presented) The projector of claim 62, wherein the primary colors are yellow, cyan, and magenta.

65. (previously presented) The projector of claim 61, wherein one of the segment is clear to the light beam.

66. (previously presented) The projector of claim 61, wherein the boundaries of the adjacent segments are curved.

67. (previously presented) The projector of claim 66, wherein the neighboring boundaries are curved in opposite directions.

68-73 (cancelled)